EMISSION BAG

FIELD OF INVENTION

The present invention relates to a barrier, and more particularly, to an emission bag where a user coughs or sneezes into the emission bag, with the emission bag acting as a barrier such that pathogens ejected from a nose or mouth will be confined to an interior of the emission bag. Additionally, the emission bag has small perforations that are medicated with an anti-septic, such that emissions are sterilized upon passing through the small perforations.

BACKGROUND OF INVENTION

Pathogens are often transmitted through fluid droplets, such as mucous, saliva, and nasal secretions. Projected through a cough or sneeze, the droplets act as carriers, transferring the pathogen from one individual to another. A single cough may produce anywhere from a few hundred to several thousand droplets, each potentially contaminated with pathogens. Contrasted with a sneeze, a sneeze may produce anywhere from a few hundred to a few million droplets. While some of the droplets produced by a sneeze may be large enough to immediately fall to the floor, others evaporate, forming residues of "droplet nuclei" which may remain airborne for hours or even days.

Preventing transmission of pathogens is often accomplished through use of barriers. The barriers are used to prevent the droplets from transferring to one's hand or from becoming airborne. The barriers take form as rubber gloves, handkerchiefs, tissues, and mitts. While effective in a sterile setting such as a hospital, rubber gloves are impractical for daily use. If an individual were to sneeze or cough, she would unlikely place a rubber glove over her hands before sneezing into them. While more practical than rubber gloves, handkerchiefs and tissues do little to prevent contamination of the hands since the microorganisms progress through the barrier from one site to another.

In an attempt to prevent contamination of the hands, a few inventors have created mitts with impervious layers. As disclosed in U.S. Patent Nos. 5,196,244 and 5,864,883, to Beck and Reo respectively, a mitt-like bag couples an impervious inner layer with an absorbent external layer. As disclosed in Beck and Reo, a user inserts her hand into the mitt-like bag and proceeds to blow her nose, sneeze, or cough onto the absorbent external layer of the mitt-like bag. The user then turns the mitt-like bag inside-out, sealing any pathogens on a now interior portion.

Although the mitt-like bags are successful in preventing contamination of the hands, they are not entirely successful in preventing pathogens from becoming airborne. When sneezing directly onto the absorbent external layer of the mitt-like bag, it is likely that pathogens will escape. Additionally, because of the impervious inner layer, if a user were to sneeze directly into an internal portion of the mitt-like bag, air would quickly fill the mitt-like bag and cause a blow-back of pathogens onto the user's face.

Therefore, there exists a need to present a bag where a user may sneeze or cough directly into an internal portion of a sealable bag, the bag being such that it allows air to pass through the bag, while keeping droplets and pathogens in the internal portion. Additionally, because sneezes and coughs often come unexpectantly, it is desirable that the bag be small and portable, allowing a user to carry one bag or a package of several bags. In this regard, the present invention substantially fulfills this need.

SUMMARY OF INVENTION

The present invention comprises an emission bag for covering a nose and mouth in such a manner that pathogens transmitted from the nose and mouth will be confined to an interior of the emission bag. The emission bag comprises a piece of material with an opening; and a bag attached with the piece of material and opening, such that an entrance to an interior of the emission bag is through the opening.

In another aspect, a top film is attached with the emission bag, such that manipulating the top film exposes the opening. Additionally, a bottom film is attached with a bottom portion of the piece of material, whereby manipulating the bottom film exposes the bag. In another aspect, the bottom film may also be attached with an exterior surface of the bag, such that pulling on the bottom film pulls open the bag and extends the bag away from the opening.

In another aspect, the piece of material is constructed from a material selected from a group consisting of plastic, metal and paperboard. Additionally, the piece of material may have perforations, allowing it to fold along the perforations and thereby create two opposing sides.

In yet another aspect, the piece of material has an enclosure apparatus, such that when the piece of material is folded along the perforations, the enclosure apparatus on the two opposing sides come into contact with each other and thereby seal the emission bag. The enclosure apparatus is selected from a group consisting of adhesive tabs, tape, Velcro, glue, and twist-ties.

Additionally, the bag is constructed of a material selected from a group consisting of plastic, paper and cloth.

In another aspect, the bag has small perforations allowing the bag to breathe. The small perforations are medicated with an anti-septic on the interior of the bag, such that emissions are sterilized upon passing through the small perforations.

Finally, the bag has an entrance and a base and the entrance has an area and the base has an area, where the area of the entrance is smaller than the area of the base.

BRIEF DESCRIPTION OF THE DRAWINGS

The nature of the emission bag described herein will be readily apparent in the following drawings, in which:

FIG. 1 is a top perspective view of the present invention, showing a piece of material with an opening;

FIG. 2A is a cross-sectional view of the present invention, taken from line II-II of FIG. 1, showing the piece of material with a top film and a bottom film attached thereto;

FIG. 2B is a cross-sectional view of the present invention, taken from line II-II of FIG. 1, showing an emission bag attached with the piece of material; and

FIG. 3 is a cross-sectional view of the present invention, taken from line II-II of FIG. 1, showing the piece of material being folded, with two opposing sides coming into contact with each other and thereby sealing the emission bag.

DETAILED DESCRIPTION

The present invention relates to a barrier, and more particularly, to an emission bag where a user coughs or sneezes into the emission bag, with the emission bag acting as a barrier such that pathogens transmitted from a nose or mouth will be confined to an interior of the emission bag. Additionally, the emission bag has small perforations that are medicated with an anti-septic, such that emissions are sterilized upon passing through the small perforations. An inherent advantage of this invention is that it is small and portable, allowing a user to carry a single emission bag or a package containing several emission bags.

The following description, taken in conjunction with the referenced drawings, is presented to enable one of ordinary skill in the art to make and use the invention. Various modifications will be readily apparent to those skilled in the art, and the general

principles defined herein may be applied to a wide range of aspects. Thus, the present invention is not intended to be limited to the aspects presented, but is to be accorded the widest scope consistent with the principles and novel features disclosed herein. Furthermore it should be noted that unless explicitly stated otherwise, the figures included herein are illustrated diagrammatically and without any specific scale, as they are provided as qualitative illustrations of the concept of the present invention.

Referring to the figures, FIG. **1** illustrates an aspect of the emission bag **100** as piece of material **102** with an opening **104**. The piece of material **102** may be constructed of any suitably semi-rigid material, non-limiting examples of which include plastic, metal and paperboard. For example, the piece of material **102** may be a planar board constructed of paperboard, with the opening as a hole in the planar board. Additionally, the piece of material **102** may be comprised of a single layer or multiple layers. The piece of material **102** has perforations **106** running from one side of the piece of material **102** to the other, allowing it to fold along the perforations **106** and thereby creating two opposing sides **108**. An enclosure apparatus **110** is attached with the piece of material **102**, such that when the piece of material **102** is folded along the perforations **106**, the enclosure apparatus **110** on the two opposing sides **108** come into contact with each other and thereby seal the emission bag **100**. The enclosure apparatus **110** may be any suitable apparatus for affixing two mediums together, non-limiting examples of which include adhesive tabs, tape, Velcro, glue, and twist-ties.

As illustrated in FIG. **2A**, a top film **200** is attached with the emission bag **100**, such that the top film **200** needs to be peeled off or otherwise manipulated in order to expose the opening **104**. The top film **200** may be attached with the emission bag **100** through any suitable means for affixing two mediums together, non-liming examples of which include staples, tape, adhesive and being in-sewn. Additionally, the top film **200** may be attached with the enclosure apparatus **110** or attached with the piece of material **102**. Furthermore, the top film **200** may be constructed of any suitable material for

covering the opening **104**, a non-limiting example of which includes a flexible clear plastic film.

Attached with a bottom portion **202** of the piece of material **102**, is a bottom film **204**. The bottom film **204** may be attached with the bottom portion **202** of the piece of material **102** through any suitable means for affixing two mediums together, non-liming examples of which include staples, tape, adhesive and being in-sewn. The bottom film **204** may be removed or otherwise manipulated to expose a bag **206**, allowing the bag **206** to be extended from the piece of material **102**. In addition to being attached with the piece of material **102**, the bottom film **204** may be optionally attached with an exterior surface of the bag **206**, such that pulling on the bottom film **204** pulls open the bag **206** and extends the bag **206** away from the opening **104**. The bottom film **204** may be constructed of any suitable material for covering or protecting the bag **206**, a non-limiting example of which includes a flexible clear plastic film.

As illustrated in FIG. **2B**, the bag **206** is attached with the piece of material **102** and opening **104**, such that an entrance to an interior **208** of the bag **206** is through the opening **104**. The bag **206** may be attached with the piece of material **102** through any suitable means for affixing two mediums together, non-limiting examples of which include staples, tape, adhesive, in-sewn, and being compressed between multiple layers of the piece of material **102**. The bag **206** may be constructed of any suitable material for constructing a bag, non-limiting examples of which include plastic, paper and cloth. The bag **206** has small perforations **210**, allowing the bag **206** to breathe, such that when a user sneezes or coughs into the bag **206**, air is allowed to pass through the small perforations **210**. The small perforations **210** are medicated with an anti-septic, such that emissions are sterilized upon passing through the small perforations **210** from an interior **208** of the bag **206** to an exterior **212** of the bag **206**. Additionally, the bag **206** may be any suitable size or shape. For example, the bag **206** has an entrance **214** and a base **216**, where an area of the entrance **214** may be smaller than an area of the base **216**.

Furthermore, the bottom film **204** may optionally be attached with the bag **206**, such that pulling on the bottom film **204** pulls open the bag **206.**

As illustrated in FIG. **3**, the emission bag **100** may be sealed, containing any pathogens inside. When the piece of material **102** is folded along the perforations **106**, the two opposing sides **108** are brought together. When the two opposing sides **108** are brought together, the enclosure apparatus **110** on the two opposing sides **108** come into contact with each other and thereby seal the emission bag **100**. When sealed, any pathogens are trapped in the interior **208** of the bag **206**.